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ABSTRACT

A study investigated whether older persons as a group are generally more persuaded by high authority figures than are younger persons. The study employed a design that allowed for extensive comparisons among subjects of different ages in terms of their willingness to be persuaded by physicians in interpersonal situations. One hundred-twenty subjects responded to a ten-page questionnaire that, among other things, requested information about age, sex, education completed, living location, religious affiliation and degree of involvement, and size of household. Four different transcripts of hypothetical interpersonal persuasive statements were constructed to represent different combinations of speaker knowledge and trustworthiness. The transcripts provided basic background information and featured a physician who sought to persuade the listener in the story to purchase a particular brand of aspirin. After reading the transcript, each subject responded to a series of questions about the physician's message--particularly about its persuasiveness. Results showed that older persons were more likely to adopt new behaviors when highly credible sources told them to do so than were younger persons. Since educational background was not found to be a deciding difference, age appeared to be a primary determinant. (HOD)

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# Age-related differences in responses to a physician's persuasive message in an interpersonal setting

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One subject of consistent interest to communication scholars has been that of source credibility in persuasive situations. Many studies, typically conducted in public speaking contexts, have shown the special vulnerability of certain persons to persuasive appeals by authority figures (Anderson and Clevenger, 1963; Johnson, Torcivia, and Poprick, 1968). Older persons make up one of the groups showing this susceptibility to persuasion by authority figures. Although many areas of age-related persuasion remain virtually unstudied, the scope of this study was limited to investigation of the basic question: are older persons as a group generally more persuaded by high authority figures than are younger persons?

This research explored this question in the context of health communication by employing a design which allowed for extensive comparisons among subjects of different ages in terms of their persuasibility by physicians in interpersonal situations. High credibility sources were operationalized as physicians, an occupation group which consistently ranks foremost in perceived credibility in American culture (Gallup, 1975; Gallup, 1976; Gallup, 1977).

Subjects. The study was administered to 120 volunteer subjects. These persons were surveyed in different settings. The first subject pool (n=38) was made up of several undergraduate classes of a required communication course at a state university. A second group of subjects (n=29) was sampled at a rural protestant church. These persons represented a wide range of ages and economic levels. A third group of subjects was a gathering of retirees (n=16) who ate regularly at a federally-funded nutrition site. These persons were all over the age of sixty. Another group to whom the survey was given was a group of retired university professors (n=19) whose names were taken from a

publically-available listing. The last group included residents of two different apartment complexes in the community (n=18).

The variety of sampling groups was designed to accomplish several goals. First, as much as possible, attempts to sample persons randomly were made. Outside the basic communication class, however, such randomization was not possible. Second, attempts were made to gather information from a fairly balanced distribution of the four age groupings in the survey. The final tally demonstrated this balance. A third goal was to compensate in the sampling for the "cohort effect." This was accomplished by sampling persons of fairly homogeneous educational levels. For instance, a special effort was made to include retired university professors whose educational levels were higher than the average for persons of that age group. By including older persons whose educational levels were similar to those of younger persons, then the effect of this educational difference on the findings would be minimized.

The Instrument. Each subject responded to a ten-page questionnaire packet. The first two introductory pages provided subjects with additional background on the topic and on the procedures used in the study. The third page of the packet was a demographic information sheet which requested information about age, sex, educational levels completed, living location, religious affiliation, degree of religious involvement, and size of household. Responses to information about age were grouped into four sections: 25 years and under, 26-45 years, 46-65 years, and over 65 years. Comparisons and data analyses were based on these four groupings. Educational levels completed were, for the purposes of analysis, grouped into sections called: 8th grade or less, high school, college, advanced degree, and other (e.g. trade school). Information about the other demographics is not reported in this paper.

Pages four through six contained the Dogmatism Scale (Form E/Short Form) by Rokeach. This scale was designed to measure individual differences in the openness or closedness of a person's belief systems. The choice of the E Scale (Short Form) was based on relative ease of administration as well as for its demonstrated high correlation with results from the longer D Scale.

The last four pages of the questionnaire contained the experimental communique and the subjects' responses to it.

Experimental Communication. In order to test for persuasibility as it might vary with age, four different transcripts of hypothetical interpersonal persuasive statements were constructed. They represented different combinations of speaker knowledge and trustworthiness, both of which have been identified as almost universal components of source credibility. The transcripts also provided explicit information about the speaker's role, that of physician.

Each interpersonal appeal was directed toward a listener who was described to the subject as being "about the same age as you." The transcripts provided basic background information, and featured the physician who sought to persuade the listener in the story to purchase a particular brand of aspirin. The setting was a local pharmacy, and the exchange was interpersonal.

Dependent Variable. Immediately after reading the transcript, each subject responded to a series of questions about the physician's message, particularly about its persuasive effectiveness. The questions were constructed as statements, and responses were on a five-point Likert-scale, ranging from Agree to Disagree. The statements sought information about the subjects' perceptions of the speaker's knowledge, trustworthiness, and role. The subjects also responded to statements about

the saliency of the topic and about the likelihood that the hypothetical listener and/or the actual subject would be likely to do what the physician had advocated.

Since persuasion, the variable of central interest in the study, contains both attitudinal and behavioral aspects, the persuasibility scores assessing projected attitude and behavior change were determined by combining subjects' responses to statements that solicited information about each of these.

Results. The results of the study are presented in several one-way analyses of variance and in analyses of covariance. While the .05 level was adopted in advance as the criterion of minimum statistical significance, the results are presented in terms of the actual levels detected.

The survey yielded responses from persons of a variety of age groups and educational levels. The following table provides a summary of the basic demographic information.

Table 1 here

The one-way analyses of variance conducted on the dependent measure of persuasibility yielded mixed results. A measure of attitudinal persuasion change was measured and tabulated by one-way analysis of variance based on subjects' responses to statement two, "After hearing Dr. Brown, the person will think the aspirin he suggested is more effective than the rest." No significant differences were found.

When behavioral persuasibility was measured on the basis of subjects' responses to the single statement: "If you were the person in the situation, you would follow Dr. Brown's advice," there was a significant difference in the main effect for age ($p < .036$). When the responses

of the subjects to that particular statement were analyzed through one-way analysis of variance, the results provided the information presented in Table two.

Table 2 here

The means of the different age groups upon which the analysis of variance regarding behavior persuasibility was based are shown on Table three which follows.

Table 3 here

The significant main effects for age in the analysis of variance presented in Table two ($p < .036$) indicate that older persons were significantly more persuaded to change their behaviors than were the younger subjects. The non-significant interaction effect between age and transcript condition ($p < .208$) demonstrated that no change was detected in the pattern of responses to the transcript condition across different age groups.

Because later analysis showed both age and education level to be related to behavioral persuasibility differences, analysis of variance was conducted to compare persuasibility scores of the over-65 age group in relation to educational level. Since a fairly large portion of the over-65 age group had high levels of education, this additional analysis was done to clarify the relationship between age and persuasibility and between educational level and persuasibility. No significant relationships were detected.

When statements three and four were combined to assess persuasibility in regards to projected behavioral changes both in the hypothetical person in the transcript interview and in the actual subject, evidence of differences across the age group still emerged. When an analysis of variance was done with educational level held constant, older subjects

Summary of Demographics

| Age group | Education | | | | | Total |
|---|---|---|---|---|---|---|
| | 8th gr. | High School | College | Adv. Degree | Other | |
| 25 & under | 0 | 24 | 11 | 2 | 2 | 39 |
| 26 - 45 | 1 | 11 | 11 | 3 | 1 | 27 |
| 46 - 65 | 4 | 13 | 6 | 1 | 3 | 27 |
| Over 65 | 1 | 5 | 5 | 11 | 5 | 27 |
| Total | 6 | 53 | 33 | 17 | 11 | 120 |

Table 1

Analysis of Variance for Behavioral Persuasibility

and Age by Transcript Condition

| Source | Sum of Squares | DF | Mean Square | F | Probability of F |
|---|---|---|---|---|---|
| Main Effects | | | | | |
| Age | 14.251 | 3 | 4.750 | 2.040 | .036 |
| Transcript | 14.481 | 3 | 4.827 | 2.997 | .034 |
| 2-way Interaction | | | | | |
| Age/Tscript | 19.979 | 9 | 2.220 | 1.378 | Non-Sig. |
| Residual | 165.899 | 103 | 1.611 | | |
| Total | 215.412 | 118 | 1.826 | | |

Table 2

Table of Means

Behavioral Persuasibility by Age

(Statement T4)

| Age Group | Mean | Standard Deviation | n |
|---|---|---|---|
| 25 & under | 3.462 | 1.630 | 39 |
| 26 - 45 | 3.333 | 1.387 | 27 |
| 46 - 65 | 3.963 | 1.344 | 27 |
| Over 65 | 4.128 | 1.005 | 26 |

Missing = 1

Table 3

were significantly more likely to be persuaded to change their behaviors in the directions advocated by the hypothetical physicans than were the younger subjects. The combination of projected behavioral change for the subject and for the hypothetical interviewee strengthened the evidence of age-related differences in behavioral persuasibility. Table four provides the data from this analysis of covariance for behavioral persuasibility and age with educational level held constant.

Table 4 here

The means of persuasibility responses by the four different age groups upon which the analysis of covariance presented in Table four were based are shown in the table of means, Table five.

Table 5 here

The significant main effect for the measure as presented in the analysis of covariance ($p < .046$) indicates that older persons were significantly more persuaded by physicians than were younger subjects when this persuasibility was measured by a combination of responses. Absence of a significant two-way interaction effect once again demonstrated that no age-related change in the pattern of responses to transcript condition was operating.

The significant effect of the covariate, educational level, ($p < .001$) provided information about two relationships. First, the appearance of a main effect for age and persuasibility even with educational level held constant, provided a clearer picture of how persuasibility was affected by age. Because, as mentioned earlier, educational level sometimes clouds interpretation of information about age differences, the emergence of a significant main effect for age even with educational level as a covariate pointed to a fairly clear

Analysis of Variance for Behavioral Persuasibility

and Age

With Educational Level as a Covariate

| Source | Sum of Squares | DF | Mean Square | F | Probability of F |
|---|---|---|---|---|---|
| Covariate | | | | | |
| Education | 17.650 | 1 | 17.650 | 11.577 | .001 |
| Main Effects | | | | | |
| Age | 12.620 | 3 | 4.207 | 2.759 | .046 |
| Transcript | 11.864 | 3 | 3.955 | 2.594 | .057 |
| 2-way Interaction | | | | | |
| Age/Tscript | 18.236 | 9 | 2.026 | 1.329 | Non-Sig. |
| Residual | 152.455 | 100 | 1.525 | | |
| Total | 213.812 | 116 | 1.843 | | |

Table 4

Table of Means

Behavioral Persuasibility and Age

(Statements T3 and T4 Combined)

| Age group | Mean | Standard Deviation | n |
|---|---|---|---|
| 25 & under | 3.750 | 1.242 | 39 |
| 26 - 45 | 3.537 | 1.323 | 27 |
| 46 - 65 | 3.870 | 1.034 | 27 |
| Over 65 | 4.103 | .852 | 26 |

Table 5

relationship between age and persuasibility to change behaviors. Second, the significant results for educational level as a covariate demonstrated that educational level is also linked with behavioral persuasibility.

Once again, because of the proportion of highly educated older persons, an analysis of variance was done to see whether a significant relationship existed between educational level and behavioral persuasibility in the over-65 age group when it was analyzed separately. No significant relationship was found between educational level and persuasibility in the over-65 age group. Even though both age and educational level are related to behavioral persuasibility, in the oldest age grouping, no significant relationship emerged between them.

In summary, data analyzed both through analysis of variance and analysis of covariance demonstrated that older persons in this study were more persuaded to change their behaviors on the basis of interpersonal appeals by physicians than were younger subjects. In measures of attitudinal persuasibility, no significant differences were found. Behavioral Persuasibility. When the results were studied in terms of projected behavioral change in response to the persuasive authority figure, significant age-related differences did emerge. Older persons were significantly more likely to adopt behavioral changes on the basis of an appeal by the physician than were the younger subjects.

Although no previous studies have focused on age differences and susceptibility to persuasion, this finding does add credence to a commonly-accepted view that older persons are more vulnerable to persuasion by persons with "respectability" than are younger persons. The reasons for this difference remain uncertain; but several plausible explanations exist.

Because older persons tend, on the average, to have lower educational levels than younger persons, some researchers have argued that what is attributed to "cohort effect" may in actuality relate more directly to differences in educational level. In order to test whether educational level rather than age was a reason for difference in persuasibility, analysis of covariance was done with educational level as the covariate. The results of the analysis demonstrated a significant difference in responses by education level ($p < .0001$) in addition to the significant main effect for age ($p < .046$). This would lead one to conclude that even with educational level held constant, age was nonetheless a significant determinant of persuasibility differences. If the differences are a product of aging, then persons in general would be more inclined to behavioral persuasibility increases as they grow older. The results of this study point to both educational differences and age differences as directly related to increased behavioral persuasibility.

Another possible explanation emerges from consideration of the "cohort effect." This position would argue that current older persons may be more persuaded by appeals from authority figures because the historical time frame in which they have lived and aged has a different view of authority than the current social climate provides. As a consequence, the older persons might be more respectful of authority simply because it represents formal authority than would younger persons who have demonstrated a more critical view. This explanation is consistent with an explanation posited by Kelman (1961). Kelman described three basic processes of social influence -- compliance, identification, and internalization (1961, pp. 57-78). Compliance,

Kelman says, occurs when "an individual accepts influence from another person or from a group because he hopes to achieve a favorable reaction from the other." Identification occurs when a person adopts behaviors to provide a satisfying role-relationship with that group. Internalization, finally, is the adoption of a behavior because it is congruent with the person's value system.

The discrepancy that emerged from the data in this study between behavioral and attitudinal changes pointed to a kind of compliance in that the subjects were willing to adopt projected behavioral changes which would be pleasing to a highly regarded person, the local physician. By adopting these changes, the persons would appear to give the expected response to the highly-regarded person while simultaneously withholding the private type of change represented in attitudinal persuasibility. Were the persuasive changes ones which Kelman described as internalized changes, the disparity between behavioral and attitudinal changes would be unlikely because of the inherent consistency needed in a basic belief. Hence, rather than interpreting the responses of the subjects as substantial persuasive change, they might be more accurately described as compliance, i.e. behavioral changes adopted to please a highly-regarded source.

Kelman proceeds to describe the "source of power of the influencing agent" to be different, based on which type of the three processes one is evaluating. Credibility, he argues, is the power source influencing internalization; while "means control" is the basis of power influencing compliance. This observation, on the surface, appears to contradict the present study which manipulated components of credibility, yet yielded what appears to be compliance. A more thorough examination, however, points to the aspect of credibility called role-related credibility

which, in this study, took the form of a physician. This role in current society is one which holds and exerts control over nearly all persons in their daily experience. It is clear that the presentation of credibility in the form of a physician could well have introduced the notion of what Kelman might call social control. For that reason, Kelman's explanation seems cogent despite some apparent inconsistencies in terminology with the present study.

Summary. The mixed results shedlight on some neglected areas of persuasion research. First, they point to heightened susceptibility of older persons to persuasive appeals by authority figures. This susceptibility was evident to a significant degree when behavioral changes were noted. That is, older persons were more likely to adopt new behaviors when highly credible sources told them to do so than were younger persons. Since educational level was found not to be a deciding difference, age appeared to be a primary determinant. Kelman's explanation of compliant behavior, behavior adopted to gain the approval of a highly regarded person or group, was posited as an accurate description of the results.

This finding pointed to one crucial area in which older persons might find themselves to be vulnerable, i.e. to persuasion advocating behavioral change that might be against the best interests of the persons. Certainly, if this finding is accurate, then older persons have more possibility of being victimized by highly credible persons who advocate behavioral changes which might be disadvantageous to the older persons. For instance, a physician who advocates unnecessary surgery; a respectable-looking insurance salesperson who urges purchase of expensive, superfluous insurance policies; and an evangelist who requests donations of money for suspicious causes -- all such highly credible persons might

successfully aim their appeals at older persons. If the findings from this study are accurate, it appears that the older persons would be more likely to adopt a behavioral change (e.g. agreeing to extra surgery and hospitalization, purchasing extra insurance, and sending already-limited funds to a crusade) than younger persons would when urged by the same source.

Implications. Because the review of the literature relating age to persuasibility detected no empirical investigations of this relationship, the findings of a significant age-related difference in behavioral changes resulting from persuasive appeals by high authority sources provides information about a subject hitherto untreated. The significant results suggest that communication and gerontology researchers should continue to explore the apparent relationship between age and persuasibility. The relationship may provide information of both theoretical and practical importance.

Of theoretical interest would be further exploration about persuasion in the interpersonal context. If this study is an indication, many of the findings which have been discovered in more formal settings such as the public speaking contexts will also emerge in interpersonal settings. Since interpersonal communication occupies a greater portion of the time spent in communication, persuasion in that context needs more empirical attention.

In a more practical area, the study's findings suggest some applications for both listeners and speakers. For listeners, especially older persons, care needs to be taken in order that persuasion by unscrupulous authority figures not victimize persons. Training programs for older persons, much like those currently conducted in consumer education for senior citizen groups, are in order. The training which

would aim at minimizing compliant behavior not in the best interests of the persons would likely have little bearing on attitude change. The training could, instead, be such that emphasis would be on adopting a more critical attitude toward persuaders, especially persons exhibiting role-related control. The current preponderance of "assertiveness training" workshops might be modified to encourage less compliance on the part of older persons.

A complicating factor in such training programs is the information about the high correlation between age and dogmatism. This correlation, although not reported in depth in this paper, was detected in this investigation also. If a dogmatic cognitive structure is more evident in older persons than in younger ones, such consumer education might be of less value. If the persons' uncritical attitudes toward the merits of a message stem from a dogmatic belief structure, then little can be done by superficial, informative training sessions to move the persons to a more critical stance. If, however, compliance can be separated from this more basic cognitive structure, then the educational programs might still have merit.

For speakers, the findings also present some directions for practical application. First, if the persuasibility differences are attributed to "cohort effect," then physicians accustomed to having respect from their listeners may be facing a dramatically different audience in the next several decades. Based on this study and on an earlier study about physician-patient communication (Keller, 1976), physicians may be dealing in years ahead with patients who are more critical of them and their work. They may also find less compliance to follow orders, to take prescribed medicine, and to believe the first opinion. This change could have a significant impact on practical areas

of physician-patient communication such as patient follow-through and patient trust. The change will be of consequence for its direct impact on patient advocacy, second and third opinions, and malpractice. Although physicians and laypersons alike rate interpersonal communication competence to be the foremost communication behavior needed by physicians (Carter, 1973), little attention is given to communication education in medical schools at the present time. With the potential influx of patients with more critical attitudes toward physicians, such training would be of value. The practical and professional consequences of such training would be beneficial to patient and physician alike. Likewise, members of other professions which have enjoyed positions of high authority in American society may need to make more concerted effort to improve their interpersonal skills, especially persuasive skills, with the advent of a more critical, less compliant, audience.

On a broader level, social policy changes may be in order to protect older persons from being victimized economically, emotionally, and physically. Just in the way that Action for Children's Television (A.C.T.) has advocated removal from television airways those commercials aimed at children who are too young to view them critically; likewise, advocates for older persons might make similar suggestions about advertising aimed precisely at older persons unable to view it critically.

This study, one of the first to explore a traditional area of credibility and its impact on age-related persuasion, points the way to some needed changes in communication education for both the speaker and the listener.

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